

CLAIMS

1. A medium- or large-diameter single-cylinder circular knitting machine, comprising a needle cylinder (1) that has a vertical axis (1a) and a sinker ring (6) that is connected coaxially to said needle cylinder (1) proximate to the upper end of the needle cylinder (1), said sinker ring (6) having a plurality of radial slots (7), each of which accommodates at least one sinker (8), characterized in that said sinker ring (6) is arranged inside the radial dimensions of said needle cylinder (1), said sinkers (8) having a beak (8a) that is directed toward the axis (1a) of the needle cylinder (1).

2. The machine according to claim 1, characterized in that each one of said sinkers (8) has, along its extension, at least one actuation heel (8b) that protrudes upwardly from the corresponding radial slot (7) and is engageable with sinker actuation cams (9) that are connected to a sinker cap (10) facing in an upward region said sinker ring (6), said needle cylinder (1) and said sinker ring (6) being actuatable, jointly, with a rotary motion about their own axis (1a) with respect to said sinker cap (10).

3. The machine according to claims 1 and 2, characterized in that said sinker actuation cams (9) have a shape adapted to produce a movement of the sinkers (8) toward and away from the axis (1a) of the sinker ring (6) as a consequence of the rotation of said sinker ring (6) with respect to said actuation cams (9).

4. The machine according to one or more of the preceding claims, characterized in that said sinker cap (10) is fixed to a goblet-like element (11), which is arranged internally and coaxially to said needle cylinder (1).

5. The machine according to claim 4, characterized in that said sinker cap (10) is provided as a peripheral rim of said goblet-like element (11), with an upper face that is shaped like a conical surface that widens upwardly.

6. The machine according to one or more of the preceding claims, characterized in that said radial slots (7) have a bottom (7a) on which the

corresponding sinker (8) rests, said bottom (7a) being arranged on a plane that is substantially perpendicular to the axis (1a) of the sinker ring (6).

7. The machine according to claim 6, characterized in that said bottom (7a) of the radial slots (7) of the sinker ring (6) is recessed with respect to the upper end of the needle cylinder (1).

8. The machine according to one or more of the preceding claims, characterized in that a radial slot (12) is formed in the upper end of the needle cylinder (1), between two contiguous axial slots (2) that accommodate respective needles (3), is aligned with a corresponding radial slot (7) of the sinker ring (6), and slidably accommodates a portion of a corresponding sinker (8).

9. The machine according to one or more of claims 6-8, characterized in that the bottom (7a) of the radial slots (7) formed in the needle cylinder (1) is arranged at a higher level than the bottom (7a) of the radial slots (7) of the sinker ring (6), the lower side of said sinkers (8) being step-shaped, with two sinker resting surfaces, respectively a lower resting surface (8c), which engages the bottom (7a) of the radial slot (7) formed in said sinker ring (6), and an upper resting surface (8d), which engages the bottom of the radial slot (12) formed in the upper end of the needle cylinder (1).

10. The machine according to claim 9, characterized in that said sinker (8) has a first portion (8e) that is delimited in a downward region by said lower resting surface (8c) and is provided in an upward region with said actuation heel (8b), and a second portion (8f) that is delimited in a downward region by said upper resting surface (8d) and is provided in an upward region with said beak (8a), a shoulder (8g) being provided on said first portion (8e), being arranged opposite said heel (8b), and being engageable with said sinker actuation cams (9).

11. The machine according to claim 10, characterized in that said sinker actuation cams (9) comprise an annular cam (14), which is arranged coaxially to said sinker ring (6) and has a profile with portions (15) in which

at least one part protrudes toward, and at least one part retracts from, the axis (1a) of the sinker ring (6), said annular cam (9) engaging said sinkers (8) between said sinker heel (3b) and said shoulder (8g).

12. A sinker (8) for a medium- or large-diameter circular knitting
5 machine, comprising a laminar body provided with a beak (8a) proximate to a first one of its ends, characterized in that said beak (8a) is directed toward the second, opposite end of the laminar body.

13. The sinker according to claim 12, characterized in that said
10 laminar body has an upper side provided with a sinker actuation heel (8b), said beak (8a) protruding on said upper side and being directed toward said actuation heel (8b).

14. The sinker according to claims 12 and 13, characterized in that the
lower side of said laminar body that lies opposite with respect to the upper side provided with said actuation heel (8b) has a step-like profile, with two
15 sinker resting surfaces that are substantially flat and parallel to each other, respectively a lower resting surface (8c) and an upper resting surface (8d) that is spaced upwardly from said lower resting surface (8c).

15. The sinker according to one or more of the preceding claims,
characterized in that said laminar body has a first portion (8e), which is
20 delimited in a downward region by said lower resting surface (7) and is provided in an upward region with said heel (8b), and a second portion (8f), which is delimited in a downward region by said upper resting surface (8d) and is provided with said beak (8a), a shoulder (8g) being provided on said first portion (8e) and being arranged opposite said actuation heel (8b).